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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,721	05/08/2001	Suresh Singamsetty Kumar	004939.P006	3643

5073 7590 11/29/2005

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EXAMINER

CAO, DIEM K

ART UNIT

PAPER NUMBER

2194

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/851,721		KUMAR ET AL.	
	Examiner		Art Unit	
	Diem K. Cao		2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are pending. Applicant has amended claims 1-2, 6, 11 and 16.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsley (U.S. 6,430,593 B1) in view of Pai et al. (Flash: An efficient and portable Web server).

4. As to claim 1, Lindsley teaches a finite state machine operating within a multitasking environment (internal State Machine 41, the TSA; col. 9, lines 21-23), a plurality of tasks configured to send event information associated with the task in message to the finite state machine (The TSA accepts commands from tasks; col. 6, lines 47-48 and col. 14, lines 57-67), wherein the finite state machine changes a state associated with the task based on the event information (col. 15, lines 1-6 and col. 19, lines 32-48).

5. However, Lindsley does not teach a portable thread environment, a plurality of threads send PTE messages to each other while cooperatively completing a task. Pai teaches a portable thread environment (portable Web server; page 1, right column, 4 paragraph), a plurality of

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threads send PTE messages to each other while cooperatively completing a task (The Asymmetric ... operation; section 3.4 and The Flash Web server ... disk activity; section 5.1).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Lindsley and Pai because portable thread environment will improve the performance of Lindsley's system by combining the high performance of single-process event-driven servers on cached workloads with the performance of multi-process and multi-threaded servers on disk-bound workloads (abstract).

7. As to claim 2, Lindsley as modified teaches the event information is associated with one or more events passed to a thread and with the state associated with the task (task command; col. 14, lines 57-67).

8. As to claim 3, Lindsley teaches a message interpreter configured to accept the messages (ATCI 45 and STCI 46; Fig. 1 and associated text), wherein the interpreter maps the messages to actions using the look-up table (col. 18, lines 29-40).

9. Claims 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsley (U.S. 6,430,593 B1) in view of Pai et al. (Flash: An efficient and portable Web server) further in view of Allen (U.S. 5,727,214).

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10. As to claim 4, Lindsley does not teach the finite state machine further comprises a storage device for storing the one or more action. Allen teaches the finite state machine further comprises a storage device for storing the one or more action (every port is endowed with a set of disposition ... events; col. 11, lines 31-41 and a Disposition Rank Matrix 200; col. 12, lines 7-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Lindsley and Allen because it provides a method for receiving and processing event messages directed to an object or system that incorporates a specified state chart (col. 1, lines 14-17)

11. As to claim 5, Allen teaches the finite state machine further comprises a state changer configured to change the state associated with the task based upon event information and a previous state associated with the task (Accept_event() ... cursor state machine 126; col. 9, lines 30-33 and Figs. 7A-7B).

12. As to claim 6, see rejections of claims 1, 2 and 5 above.

13. As to claim 7, Lindsley as modified teaches the task remains associated with the present state based upon the present state and the action (col. 15, lines 1-6).

14. As to claim 8, Lindsley as modified teaches generating state machine events relating to the state of the task (col. 14, lines 57-67).

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15. As to claim 9, Allen as modified teaches distributing the state machine events between one or more threads in the portable thread environment (to itself or to another object; col. 10, lines 40-44).

16. As to claim 10, Allen as modified teaches distributing the state machine events between one or more threads in the portable thread environment and a second portable thread environment (it can also calls to new_event() to submit additional events to itself or to another object; col. 10, lines 27-44 and Jam_event; col. 9, lines 48-52 and Band State Machine; col. 7, lines 6 -33).

17. As to system and computer product claims 11 and 16, they correspond to the method claim of claim 6, respectively.

18. As to claims 12 and 17, see rejection of claim 7 above.

19. As to claims 13 and 18, see rejection of claim 8 above.

20. As to claims 14 and 19, see rejection of claim 9 above.

21. As to claims 15 and 20, see rejection of claim 10 above.

Response to Arguments

22. Applicant's arguments filed 9/27/2005 have been fully considered but they are not persuasive.

In the remarks, Applicant argued in substance that (1) Pai does not teach “a plurality of threads send PTE messages to each other while cooperatively completing a task”, and (2) the combination of Lindsley and Allen is improper because the proposed combination would render Lindsley unsatisfactory for its intended purpose because it would require Lindsley to process events “one thread of execution at a time”.

Examiner respectfully traverses Applicant's argument:

- As to the point (1), Pai teaches a plurality of threads send PTE messages to each other while cooperatively completing a task (see rejection of claim 1 above). In the reference of Pai, Pai clearly teaches the Flash Web server implements the AMPED architecture described in section 3, in that architecture, a server process assisted by helper processes, and inter-process communication is occur between the server process and helper processes. Thus, Pai teaches the claimed limitation.
- As to the point (2), as Applicant pointed out, the task scheduling accelerator is used to compute schedule decision for plurality of task, and it is not the same as multiple threads are executed at the same time. It is well known in the art that even if there is multiple threads are existed in the system, only one thread is executed by the operating system at a time. Therefore, the arguments are not persuasive.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K. Cao whose telephone number is (571) 272-3760. The examiner can normally be reached on Monday - Friday, 5:30AM - 2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Diem Cao



WILLIAM THOMSON
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